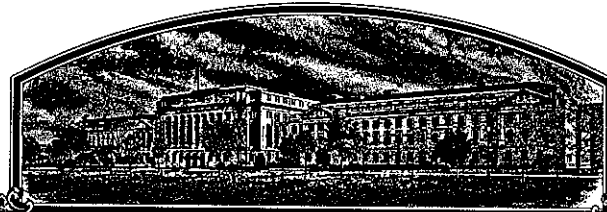


No.

8300135



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Asgrow Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A2943'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 31st day of August in the year of our Lord one thousand nine hundred and eighty-four.

Attest:

*Kenneth H. Evans*  
Commissioner

Plant Variety Protection Office  
Agricultural Marketing Service

*John R. Block*  
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY XP2943		1b. VARIETY NAME A2943		FOR OFFICIAL USE ONLY PV NUMBER <b>8300135</b>	
2. KIND NAME Soybean		3. GENUS AND SPECIES NAME Glycine max		FILING DATE 5/20/83	TIME 8:30 A.M.
4. FAMILY NAME (BOTANICAL) Leguminosae		5. DATE OF DETERMINATION September, 1979		FEE RECEIVED \$ 1,000 \$ 500.00	DATE 5/20/83 7/25/84
6. NAME OF APPLICANT(S) Asgrow Seed Company		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 9620-190-25 Gull Road, Bldg 190 Kalamazoo, Michigan 49001		8. TELEPHONE AREA CODE AND NUMBER (616) 385-6605	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Delaware		11. DATE OF INCORPORATION March 22, 1968
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: John A. Batcha, 9620-190-25, Asgrow Seed Company, Gull Road, Bldg. 190, Kalamazoo, MI 49001					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  
☐ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?  
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

April 27, 1983  
(DATE)

John A. Batcha  
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

8300135

EXHIBIT A

Origin and Breeding History of A2943

1977 - Cross was made at Oxford, Indiana

PARENTS: A1564 \* A3127

1977-78 - F<sub>1</sub> and F<sub>2</sub> generations grown at Delray Beach, Florida.  
(winter)

1978 - F<sub>3</sub> generation grown at Oxford, Indiana. Two-hundred plants selected from bulk population and threshed individually.

1979 - Progeny row B77023-B79-03956 was selected for its uniformity, standability and disease resistance. This row was harvested in bulk and seeds were checked and verified for uniform seed coat luster and hilum color.

It was in September, 1979, that B77023-B79-03956 was determined to be a stable and unique line.

1980 - B77023-B79-03956 was entered in the Preliminary II Yield tests conducted at Ames, Iowa, and Oxford, Indiana. It produced uniform stands and was selected for its yield and standability.

B77023-B79-03956 was tested for Phytophthora root rot resistance in the greenhouse in January, 1981, and found resistant to Race 1.

B77023-B79-03956 was assigned the maturity designation X2943.

1981 - X2943 was entered in the Strain S202 Yield tests which were grown at 6 locations including: Ames, Liberty Center, Vinton and Williams, Iowa; Oxford, Indiana; and Shelby, Nebraska.

X2943 was nominated for pilot production and assigned the designation XP2943. Thirty pounds of Breeder seed were produced at Ames, Iowa. This Breeder seed was sent to Delray Beach, Florida, for increase.

1982 - XP2943 was entered in the Variety V203 Yield tests which were grown at 13 locations including: Ames, Bancroft, Belmond, Clarion and Grinnell, Iowa; Dekalb, Merna, Peoria, Piper City and Stonington, Illinois; Shelby and Tekamah, Nebraska; and Oxford, Indiana.

Foundation seed of XP2943 was produced near Perry, Iowa.

XP2943 was nominated for release and full production and assigned the designation A2943.

continued on back...

Exhibit A continued...

A2943 is uniform and stable within commercially acceptable limits based on trial observations since its development in 1979. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction, with the same being true for offtypes.

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MAY 20 1983



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EXHIBIT B

Novelty Statement concerning A2943 Soybean

To our knowledge the soybean varieties that most closely resemble A2943 are A3127, Beeson and Pella. Characteristics which differentiate A2943 include, but are not necessarily restricted to, the following:

1. Pubescence Color:

A2943	=	gray
A3127	=	tawny
Beeson	=	gray
Pella	=	tawny

2. Hilum Color:

A2943	=	Imperfect black
A3127	=	Black
Beeson	=	Imperfect black
Pella	=	Black

3. Podwall Color:

A2943	=	Tan
A3127	=	Tan
Beeson	=	Brown
Pella	=	Tan

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
 PLANT VARIETY PROTECTION OFFICE  
 BELTSVILLE, MARYLAND 20705

EXHIBIT C  
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	TEMPORARY DESIGNATION XP2943	VARIETY NAME A2943
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Kalamazoo, Michigan 49001 9620-190-25		FOR OFFICIAL USE ONLY PVPO NUMBER 8300135

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,   ).

## 1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios =  $< 1.2$ )  
 3 = Elongate (L/T ratio  $> 1.2$ ; T/W  $< 1.2$ )

2 = Spherical Flattened (L/W ratio  $> 1.2$ ; L/T ratio =  $< 1.2$ )  
 4 = Elongate Flattened (L/T ratio  $> 1.2$ ; T/W  $> 1.2$ )

## 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow      2 = Green      3 = Brown      4 = Black      5 = Other (Specify) \_\_\_\_\_

## 3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')      2 = Shiny ('Nebsoy'; 'Gasoy 17')

## 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

## 5. HILUM COLOR: (Mature Seed)

1 = Buff      2 = Yellow      3 = Brown      4 = Gray      5 = Imperfect Black      6 = Black      7 = Other (Specify) \_\_\_\_\_

## 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow      2 = Green

## 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low      2 = High

## 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1<sup>a</sup>)      2 = Type B (SP1<sup>b</sup>)

## 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')      2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')  
 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')  
 4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

## 10. LEAFLET SHAPE:

1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☒ 21 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

## 12. LEAF COLOR:

☒ 21 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

## 13. FLOWER COLOR:

☒ 2

1 = White

2 = Purple

3 = White with purple throat

## 14. POD COLOR:

☒ 1

1 = Tan

2 = Brown

3 = Black

## 15. PLANT PUBESCENCE COLOR:

☒ 1

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

☒ 11 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

## 17. PLANT HABIT:

☒ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## 18. MATURITY GROUP:

☒ 0 ☒ 5

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

☒ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)☒ 1Bacterial Blight (*Pseudomonas glycinea*)☒ 0Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

☒ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojae*)☒ 0

Race 1

☒ 0

Race 2

☒ 0

Race 3

☒ 0

Race 4

☒ 0

Race 5

☒

Other (Specify)

☒ 0Target Spot (*Corynespora cassicola*)☒ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☒ 1Powdery Mildew (*Microspheera diffusa*)☒ 1Brown Stem Rot (*Cephalosporium gregatum*)☒ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

## FUNGAL DISEASES: (Continued)

<input checked="" type="checkbox"/> 1	Pod and Stem Blight ( <i>Diaporthe phaseolorum</i> var. <i>sojae</i> )												
<input type="checkbox"/> 0	Purple Seed Stain ( <i>Cercospora kikuchii</i> )												
<input type="checkbox"/> 0	Rhizoctonia Root Rot ( <i>Rhizoctonia solani</i> )												
Phytophthora Rot ( <i>Phytophthora megasperma</i> var. <i>sojae</i> )													
<input checked="" type="checkbox"/> 2	Race 1	<input checked="" type="checkbox"/> 2	Race 2	<input checked="" type="checkbox"/> 1	Race 3	<input checked="" type="checkbox"/> 1	Race 4	<input type="checkbox"/> 0	Race 5	<input type="checkbox"/> 0	Race 6	<input checked="" type="checkbox"/> 1	Race 7
<input type="checkbox"/> 0	Race 8	<input type="checkbox"/> 0	Race 9	<input type="checkbox"/>	Other (Specify) _____								

## VIRAL DISEASES:

<input type="checkbox"/> 0	Bud Blight (Tobacco Ringspot Virus)
<input type="checkbox"/> 0	Yellow Mosaic (Bean Yellow Mosaic Virus)
<input type="checkbox"/> 0	Cowpea Mosaic (Cowpea Chlorotic Virus)
<input type="checkbox"/> 0	Pod Mottle (Bean Pod Mottle Virus)
<input type="checkbox"/> 0	Seed Mottle (Soybean Mosaic Virus)

## NEMATODE DISEASES:

Soybean Cyst Nematode ( <i>Heterodera glycines</i> )									
<input checked="" type="checkbox"/> 1	Race 1	<input type="checkbox"/> 0	Race 2	<input checked="" type="checkbox"/> 1	Race 3	<input checked="" type="checkbox"/> 1	Race 4	<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/> 0	Lance Nematode ( <i>Hoplolaimus Colonus</i> )								
<input type="checkbox"/> 0	Southern Root Knot Nematode ( <i>Meloidogyne incognita</i> )								
<input type="checkbox"/> 0	Northern Root Knot Nematode ( <i>Meloidogyne Hapla</i> )								
<input type="checkbox"/> 0	Peanut Root Knot Nematode ( <i>Meloidogyne arenaria</i> )								
<input type="checkbox"/> 0	Reniform Nematode ( <i>Rotylenchulus reniformis</i> )								
<input type="checkbox"/>	OTHER DISEASE NOT ON FORM (Specify): _____								

## 20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input checked="" type="checkbox"/> 1	Iron Chlorosis on Calcareous Soil
<input type="checkbox"/>	Other (Specify) _____

## 21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="checkbox"/> 0	Mexican Bean Beetle ( <i>Epilachna varivestis</i> )
<input type="checkbox"/> 0	Potato Leaf Hopper ( <i>Empoasca fabae</i> )
<input type="checkbox"/>	Other (Specify) _____

## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A3127	Seed Coat Luster	A3127
Leaf Shape	A3127	Seed Size	A3127
Leaf Color	Beeson	Seed Shape	HP3700
Leaf Size	A3127	Seedling Pigmentation	A3127



## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
A2943 Submitted	130	1.2	99	7.0	11.8	43.0	18.8	16.2	2.8
A3127 Name of Similar Variety	134	1.5	99	7.3	12.2	42.5	19.0	16.0	2.8

## PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.